

WHAT IS CLAIMED IS:

1. A method, comprising:
determining a packet to be transmitted via a port;
5 determining information associated with the port; and
preventing the packet from being placed in a transmit buffer based on the
determined information, wherein the transmit buffer stores packets associated with a
plurality of ports.
- 10 2. The method of claim 1, wherein the transmit buffer is a first-in, first-out
buffer.
3. The method of claim 1, wherein the determinations are performed by a
transmit processing element, and the transmit buffer is stored in a memory unit external
15 to the transmit processing element.
4. The method of claim 3, wherein the information associated with the port is a
port status indicating that the port is currently blocked.
- 20 5. The method of claim 3, wherein the determination of information associated
with the port comprises:
accessing a control status register and evaluating a bit associated with the port.
6. The method of claim 5, wherein the determination of information associated
25 with the port comprises detecting that another packet to have been transmitted via the
port was removed from the transmit buffer without being successfully transmitted.

7. The method of claim 3, wherein said preventing comprises:
placing the packet in a local queue stored at the transmit processing element.

5 8. The method of claim 7, further comprising:
determining that a port status indicates that the port is not currently blocked; and
arranging for the packet to be moved from the local queue to the transmit buffer.

9. The method of claim 7, wherein determination of the packet to be transmitted
10 comprises receiving the packet from a schedule processing element.

10. The method of claim 1, wherein the determinations are performed by a
schedule processing element.

15 11. The method of claim 10, wherein the determination of information associated
with the port comprises:

receiving an indication of a number of packets that have been transmitted;

calculating a number of packets that are pending; and

comparing the number of packets that are pending with a pre-determined

20 threshold value.

12. The method of claim 10, wherein said preventing comprises:
not scheduling the packet to be transmitted.

25 13. The method of claim 12, further comprising:

determining that a number of packets that are pending is below a pre-determined threshold value; and

scheduling the packet to be transmitted.

5 14. The method of claim 13, wherein the scheduling includes:
providing the packet to a transmit processing element.

 15. An article, comprising:
a storage medium having stored thereon instructions that when executed by a
10 machine result in the following:

 determining a packet to be transmitted via a port;
 determining information associated with the port; and
 preventing the packet from being placed in a transmit buffer based on the
determined information, wherein the transmit buffer stores packets associated
15 with a plurality of ports.

 16. The article of claim 15, wherein the transmit buffer is a first-in, first-out
buffer.

20 17. The article of claim 15, wherein the determinations are performed by a
transmit processing element, and the transmit buffer is stored in a memory unit external
to the transmit processing element.

 18. The article of claim 17, wherein the information associated with the port is a
25 port status indicating that the port is currently blocked.

19. The article of claim 17, wherein the determination of information associated with the port comprises:

5 accessing a control status register and evaluating a bit associated with the port.

20. The article of claim 19, wherein the determination of information associated with the port comprises detecting that another packet to have been transmitted via the port was removed from the transmit buffer without being successfully transmitted.

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21. The article of claim 17, wherein said preventing comprises:

 placing the packet in a local queue stored at the transmit processing element.

15 22. The article of claim 17, wherein determination of the packet to be transmitted comprises receiving the packet from a schedule processing element.

23. The article of claim 15, wherein the determinations are performed by a schedule processing element.

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24. The article of claim 23, wherein the determination of information associated with the port comprises:

 receiving an indication of a number of packets that have been transmitted,
 calculating a number of packets that are pending, and
25 comparing the number of packets that are pending with a pre-determined threshold value.

25. The article of claim 23, wherein said preventing comprises:

not scheduling the packet to be transmitted.

5 26. An apparatus, comprising:

a transmit processing element to provide packets to be transmitted via a plurality
of ports; and

a memory external to the transmit processing element to store the packets in a
transmit buffer,

10 wherein the transmit processing element includes a local queue to store packets to
be transmitted via a port that is currently blocked.

27. The apparatus of claim 26, wherein the transmit processing element
determines that a port is currently blocked by accessing a control status register and
15 evaluating a bit associated with the port.

28. The apparatus of claim 27, further comprising:

a schedule processing element to provide the packets to the transmit processing
element, wherein the schedule processing element prevents a packet from being provided
20 to the transmit processing element when a number of packets that are pending exceeds a
pre-determined threshold value.

29. An apparatus, comprising:

a schedule processing element to provide packets to be transmitted via a plurality
25 of ports;

a transmit processing element to receive the packets; and

a memory external to the transmit processing element to store the packets in a transmit buffer,

wherein the schedule processing element prevents a packet from being provided to the transmit processing element when a number of packets that are pending exceeds a pre-determined threshold value.

30. The apparatus of claim 29, wherein the schedule processing element is to receive from the transmit processing element an indication of a number of packets that have been transmitted and the determination of whether the port is currently block is based on: (i) the received indication, (ii) a number of packets that that have been scheduled, and (iii) the pre-determined threshold value.

31. A system, comprising:

a network processor, including:

a transmit processing element to provide packets to be transmitted via a plurality of ports, and

a memory external to the transmit processing element to store the packets in a transmit buffer,

wherein the transmit processing element includes a local queue to store packets to be transmitted via a port that is currently blocked; and

an asynchronous transfer mode fabric interface device coupled to the network processor.

32. The system of claim 31, wherein the transmit processing element determines that a port is currently blocked by accessing a control status register and evaluating a bit associated with the port.

33. The system of claim 31, wherein the network processor further includes:

a schedule processing element to provide the packets to the transmit processing element, wherein the schedule processing element prevents a packet from being provided to the transmit processing element when a number of packets that are pending exceeds a pre-determined threshold value.

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